

The Influencing Factors of the Elderly's Returns in the Live Shopping

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ABSTRACT When live e-commerce has deeply penetrated into the consumption scene of the elderly, e-commerce returns have become a prominent pain point affecting the consumption experience of the elderly. This study discussed the impact of product perceived consistency, host reputation and leisure shopping orientation on the return of live broadcasting for the elderly. The empirical results showed that product perceived consistency has a significant negative impact on the return intention, which is stronger when the return policy is not good, and host reputation has an unexpected positive impact on the return intention. The trust of the elderly in the high-reputation hosts makes them more confident to exercise the right to return products they do not like. And the impact of leisure shopping orientation is only significant when the return policy is good. Based on this, this paper put forward some suggestions to optimize the service of live shopping for the elderly and protecting the reasonable return rights of the elderly consumers.

INDEX TERMS live shopping, the elderly, returns.

I. INTRODUCTION

IN recent years, the aging process of the population continues to accelerate, and the degree of digital integration of the elderly groups continues to improve. With the interactive and cost-effective advantages, live e-commerce has rapidly penetrated into the elderly consumption life and become an important form of online shopping for the elderly. Meanwhile, the problem of return after live shopping has become increasingly prominent. Unlike young consumers who are more familiar with online shopping return processes and have higher risk tolerance, the elderly often face more troubles such as unclear return rules, difficult operation, and inconsistent products received with expectations when dealing with returns, which not only reduces their consumption experience in live shopping, but also may intensify their distrust of digital consumption scenarios. Because of the inherent attributes of physiological function decline (e.g. visual acuity, memory decline), weak digital operation skills, special psychological characteristics (e.g. strong sense of loneliness, weak awareness of rights protection), the elderly frequently encounter problems such as product expectation inconsistency and general quality in live shopping, but present the contradictory phenomenon of "want to return but not return". It not only damages the consumer rights and interests of the elderly, but also makes it difficult for live e-commerce platforms and businesses to accurately optimize services and resolve consumer disputes, which is not conducive to the healthy development of the silver-haired economy.

Existing academic research on live shopping returns mostly focuses on general consumer groups, with insufficient atten-

tion paid to the elderly group, a fast-growing consumer group in live e-commerce. Therefore, this paper focused on the network live shopping scene, discussed the factors affecting the return intention of the elderly, and put forward targeted implementation measures to help improve the reasonable return rate of the elderly.

II. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Consumer's return behavior will be different because of different consumption scenarios, individual characteristics and consumption values, and most of the existing studies divide the factors affecting returns into objective and subjective categories. Due to the uniqueness of the elderly group in physiological function, digital skills and psychological needs, the influencing factors of their return decision show particularity. This study discussed the influencing factors on the return behavior of the elderly group, which were also divided into two dimensions: objective factors and subjective factors. In terms of objective factors, product quality, information asymmetry in remote transactions, customer service response efficiency and service quality are key influencing variables. And dissatisfaction of elderly consumers with product quality, price or shopping experience will be directly transformed into return intention. The higher the matching degree between the commodity presentation effect in the live broadcast room and the physical product, the lower the likelihood of consumer's return. The uncertainty of product matching and quality is still the core factor affecting the return willingness of consumers [1]. This paper identifies

products and hosts characteristics as objective influencing factors. From the perspective of subjective factors, factors including interaction characteristics in live shopping, and impulsive consumption behavior will also affect consumers' return intention. That is, consumers may initiate returns not due to product quality or price problems, but driven by these subjective factors. Eastlick & Lotz (2011) argued that the standardization of transaction contexts constitutes a crucial antecedent variable for customers' initial trust [2]. Specifically, the higher the degree of transaction context standardization, the higher the level of customers' initial trust in the participating parties of online transactions. This study took shopping orientation as the subjective influencing factor for the return behavior of the elderly after live-streaming shopping. Shopping orientation can be categorized into leisure orientation and task orientation, and these two types may exert differentiated influences on return in live-streaming shopping. Return intention refers to the psychological tendency and behavioral intention of consumers to apply for return, cancel orders or return purchased goods subjectively based on the re-evaluation of goods, hosts, platforms or their own needs after they have completed the purchase of goods through the live shopping platform and have not actually received the goods or received the goods. Hess, Chu, & Gerstner (1996) pointed out that consumers' perception of products will affect their disposal behavior of products [3], and dissatisfaction with product performance is the direct reason for their return intention. In recent years, the scale of internet users has continuously expanded, accompanied by a concurrent sustained growth in commodity return rate, which has shown a stable upward research trend in recent years. Next, the effects of product perceived consistency, host reputation and leisure shopping orientation would be discussed separately. Product perceived consistency is the core antecedent variable that affects the return intention of the elderly, and its essence can correspond to the internal logic of consumer cognitive dissonance theory. Cognitive dissonance was defined as the gap between consumer expectations and actual experience, which is a sense of psychological imbalance when the actual results do not match [4]. The primary reason for the return of goods by the elderly is that the goods do not meet expectations. The product perceived consistency is in the opposite way. The higher the degree to which a product matches the expectations of elderly consumers, the lower the probability of such consumers returning the product. Therefore, the following hypothesis is obtained in this paper.

H1: Product perceived consistency decreased the elderly's return intention in the live shopping.

E-commerce platform reputation can be divided into four categories: the overall reputation of platform enterprises, the individual reputation of platform enterprises, the overall reputation of platform sellers, and the individual reputation of platform sellers. The seller reputation investigated in this study specifically refers to the individual reputation of sellers within the reputation system of the live streaming e-commerce platform. For the same goods, consumers will think that the

goods sold by sellers with high reputation are better than those sold by sellers with low reputation. Elderly consumers are more inclined to trust live streamers with good reputation, high user evaluation and high public attention. Nevertheless, elderly consumers attach greater importance to product quality and practicality when making shopping decisions. Even if the host has a favorable reputation, elderly consumers will still firmly choose to return products when product quality problems occur. Meanwhile, the trust generated by a host's high reputation also enhances elderly consumers' confidence in exercising their statutory right of return. Therefore, the following assumption is made in this paper.

H2: Host reputation increases the elderly's return intention in the live shopping.

Leisure shopping orientation refers to the long-term stable consumption decision-making tendency formed by consumers in live shopping, which takes watching live shopping as leisure, has no clear shopping goal, and takes passing time and entertainment as the core motivation. Leisure-oriented consumers are more susceptible to sensory cues, and their decisions mainly rely on experiential value perception, while task-oriented consumers are more inclined to follow the utility perception brought by information [5]. For elderly consumers who engage in live streaming shopping for leisure, entertainment and time-killing purposes, their shopping objectives are typically vaguer, making them more prone to placing orders randomly and engaging in impulsive consumption, which further leads to a higher probability of product return. In contrast, elderly consumers with a practical demand orientation exhibit more rational purchasing behavior. Accordingly, leisure shopping orientation can effectively distinguish the differences in shopping motivation among elderly consumers, and has potential explanatory power for consumers' return intention.

H3: Leisure shopping orientation increases the elderly's return intention in the live shopping.

III. MEASUREMENT AND DATA COLLECTION

The data for this study was collected via questionnaires distributed to and completed by respondents aged 50 years and older. The measurement of the variables were designed by Likert five-level scale, which referred to the existing research, and optimized the item expression and situational applicability. For the measurement scales, product perceived consistency was measured by items like "I was a little disappointed with what I bought when I watched the live broadcast.", host reputation was measured by items like "Compared with other hosts in the live broadcast room, this host's live broadcast room is more popular." [6], leisure shopping orientation was measured by items like "When I'm free and bored, I like to watch live shopping to pass the time." and return intention was measured by items like "If the things I bought in the live broadcast are not suitable, I will probably return them." [7]. Age was defined as the actual life span of the elderly when they participate in the questionnaire survey. Shopping experience (depth) was defined as the frequency of the elderly

TABLE 1. Demographic characteristics

Variables	Value	Percentage
Gender	Male	41.9%
	Female	58.1%
Age	50–60 years	52.2%
	61–65 years	44.3%
	66–70 years	3.6%
Live shopping frequency	1 time or less	15%
	2–3 times	54.2%
	4–5 times	25.3%
	More than 6 times	5.5%

participating in live shopping in the live shopping scene, and shopping experience (breadth) was defined as the number of e-commerce platforms and live shopping platforms used by the elderly in online shopping and live shopping. A total of 506 valid questionnaires were obtained and the demographic characteristics were shown in Table I. The overall sample is mainly composed of the younger elderly (50-65 years old), who have certain ability to use digital devices and are the core target group of the elderly live shopping, and the sample structure satisfies the research requirements.

IV. DATA ANALYSIS

Descriptive statistical analysis was performed first. For the perspective of product category, elderly respondents' consumption demands are concentrated in livelihood-oriented rigid demands and high-frequency consumer goods. Clothing (68.0%), daily necessities (64.0%) and household goods (58.9%) are the three most popular categories; snacks and fresh food (49.4%) follow closely, belonging to the important categories of daily consumption; cosmetics and personal care (34.0%) and digital accessories (18.2%) account for a relatively low proportion. The proportion of non-rigid necessities such as jewelry and fashion is only 3.6%. The live shopping of the elderly group is mainly practical consumption, and the consumption decision is based on the daily life needs, rather than impulsive and entertainment consumption. This also establishes the fundamental logical framework for analyzing the motivations underlying the subsequent return behavior. About the reasons for the return of live shopping, the top three core reasons are that "the goods do not match personal expectations" (62.1%), "the goods do not match the introduction of host" (58.9%), and "the goods have quality problems" (58.1%), indicating that information asymmetry is the main incentive for the elderly to return goods. Freight disputes (51.0%) is the fourth major reason, reflecting the high sensitivity of the elderly group to the cost of shopping; the difference between the received goods and the store display map is too large (34.8%), the platform return entrance is difficult to find/complex operation (46.6%), poor customer service attitude (42.7%) and other issues are also important. Further analysis shows that the return behavior of the elderly group is not only due to the quality and information deviation of the goods themselves, but also due to the obstacles of

TABLE 2. Rotated constituent matrix in principal component analysis

	Ingredient 1	Ingredient 2	Ingredient 3	Ingredient 4
Product perception consistency 1	.763	.008	-.031	.197
Product perception consistency 2	.841	.014	-.069	-.009
Product perception consistency 3	.830	.054	-.019	-.065
Product perception consistency 4	.865	.043	-.045	.105
Host reputation 1	.855	.032	.042	.110
Host reputation 2	.758	.064	.274	-.131
Host reputation 3	.641	.144	.454	-.090
Leisure shopping oriented 1	.749	.046	.090	.214
Leisure shopping oriented 2	.697	-.008	-.038	.138
Leisure shopping oriented 3	.862	.041	.016	.081
Return intention 1	.747	-.150	-.037	-.107
Return intention 2	.762	-.027	-.010	.099
Return intention 3	.830	.040	.084	-.050

platform services, business communication and other after-sales links, while the lack of digital operation ability also aggravates the difficulty of return. In terms of shopping difficulties, the prominent pain points encountered by the elderly group are concentrated in the after-sales service process. The most prominent difficulties were the difficulty to find the return entrance on the platform and the complexity of the operation steps (46.6%), followed by the poor customer service attitude and the lack of positive message response (42.7%), the lack of familiarity with the online operation (33.2%), and the refusal of the merchants to refund (30.0%). The elderly are not only facing the return demand of the commodity side, but also facing the return obstacles of the operation side and the service side, and the digital divide is the key factor affecting the shopping experience of the elderly. The following proposed the hypothesis test. The influence of product perception consistency, host reputation and leisure shopping orientation on the return intention of elderly consumers was tested, including age, shopping experience (depth) and shopping experience (breadth) as control variables to exclude the use experience on the return intention. Firstly, the reliability and validity of the measurement were analyzed. The reliability was tested by the Cronbach's alpha coefficient. The Cronbach's alpha coefficient of most variables is greater than 0.7, and only the Cronbach's alpha coefficient of "return intention" is 0.685, which is slightly lower than ideal threshold of 0.7. Validity test is carried out below. The significance is 0.000 through KMO test. The data is suitable for principal component analysis. The rotated component matrix of principal component analysis is shown in Table II. The measurement items of the same variable are rotated together, and the measurement items of different variables are rotated to different principal components. Therefore, hypothesis testing can be carried out through validity testing.

The results of correlation analysis were shown in Table III. There was a correlation between return intention and product perception consistency, host reputation and leisure shopping orientation.

Regression analysis is performed below, with return intention as the dependent variable, and product perception consistency, host reputation, leisure shopping orientation, age, shopping experience (breadth) and shopping experi-

TABLE 3. Correlation between variables

	Product perception consistency	Host reputation	Leisure shopping oriented	Age	Experience (depth)	Experience (breadth)	Willingness to return
Product perception consistency	1.000						
Host reputation	0.167**	1.000					
Leisure shopping oriented	0.081	0.466***	1.000				
Age	-0.175**	0.089	0.030	1.000			
Experience (depth)	0.157*	0.001	0.028	-0.195**	1.000		
Experience (breadth)	0.168**	0.180**	0.252***	-0.108*	0.196***	1.000	
Return Intention	-0.233***	0.146*	0.123*	0.097	-0.055	0.020	1.000

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

TABLE 4. Regression Results

	(1) Full sample	(2) Convenient return process	(3) Complex return process
Product perception consistency	-0.245*** (-4.07)	-0.186* (-2.23)	-0.268** (-2.98)
Host reputation	0.166* (2.14)	0.0594 (0.53)	0.257* (2.31)
Leisure shopping oriented	0.0700 (0.96)	0.253* (2.34)	-0.0884 (-0.88)
Age	0.0552 (0.57)	-0.117 (-0.85)	0.194 (1.37)
Experience (depth)	-0.0228 (-0.22)	-0.0547 (-0.37)	0.0134 (0.09)
Experience (breadth)	0.0433 (0.41)	0.0219 (0.15)	0.0731 (0.47)
Constant	3.625*** (11.44)	3.264*** (6.78)	3.849*** (9.22)
N	506	270	236

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

ence (depth) as the independent variables. The regression coefficient of total sample was shown in column (1) of Table IV. From the regression results, product perceived consistency and host reputation had significant impacts on return intention, in which product perceived consistency has a negative impact on return intention, while host reputation has a positive impact. Thus, H1 and H2 were supported. However, no significant effect of leisure shopping orientation was found, and H3 was not supported. In addition, age and shopping experience (breadth and depth) were included in the regression, but no significant effect was found.

Existing studies have shown that a lenient return policy can effectively alleviate consumers' post-purchase cognitive dissonance, and reduce the negative impact of decision deviation by enhancing transaction trust and pre-purchase satisfaction [1]. In order to further analyze the effects of these factors, this study divided the samples into the good return policy group and the poor return policy group, based on the question "the return entrance of the platform is difficult to find and the operation steps are complex", and carries out the grouping regression. The results were shown in columns (2) and (3) of Table IV. The regression coefficients of the two groups were further compared to see if there are significant differences, and the results were shown in Table V. There was no significant difference in the regression coefficient of product perception consistency between the two groups, but there was a significant difference between host reputation and leisure shopping orientation, and the impact of host reputation on return intention was significantly positive only in the group with poor return policy, which indicates that the positive effect of host reputation can reduce users' return intention

TABLE 5. Comparison of Grouping Regression Coefficients

Variables	Difference in coefficients	P-value
Product perception consistency	0.082	0.350
Host reputation	-0.198	0.080
Leisure shopping oriented	0.341	0.010
Age	-0.311	0.040
Experience (depth)	-0.068	0.340
Experience (breadth)	-0.051	0.350
Constant	-0.586	0.270

to a certain extent in the context of complex return process. The positive impact of leisure shopping orientation on return intention was only significant in the group with good return policy, indicating that when the return process is convenient, consumers are more inclined to make return decisions based on their own shopping motivation.

V. DISCUSSION

This paper discussed the impact of product perception consistency, host reputation and leisure shopping orientation on the return intention of live shopping. The results showed that product perception consistency and host reputation has significant effects, and the impact of leisure shopping orientation is significant only when the return policy is loose and the process is convenient. This shows that the convenience of return policy directly changes the decision-making mechanism of the elderly return, the more complex the process, the more the elderly rely on the commodity information itself and the credibility of the host to make decisions. Based on the empirical results, this paper put forward some suggestions to improve the experience of the elderly live purchase and return from the two aspects of live e-commerce platform and host. For live e-commerce platforms, which are featured by content-based entertainment attributes and impulse consumption patterns, streamlining return procedures and optimizing age-friendly functional interfaces constitutes a targeted age-friendly return optimization scheme. Optimizing the age-friendly return operation interface can include setting up one-click return functions, enlarging font size, adding voice guidance, compressing return processing steps, reducing unnecessary page jumps, and lowering the operational difficulty for elderly users. More importantly, platforms should strengthen the substantive review of products promoted in live broadcast rooms, strictly regulate the use of filter beautification and

exaggerated marketing tactics, and extend the retention period of live playback records to facilitate return applications from elderly users. Finally, an explicit calm-consideration pop-up reminder should be set up for large orders placed by elderly users. A manual customer service green channel dedicated to elderly users should be established. For return requests that merchants unreasonably refuse, the platform should implement an advance compensation mechanism. For the hosts, the core optimization suggestion is to maintain and consolidate the trust relationship with elderly consumers. This study finds that elderly consumers have higher trust in returns services provided by high-trust streamers. This mechanism is key to protecting the legitimate rights and interests of elderly consumers and improving their consumption experience. The hosts can optimize their related services from the following three aspects. First, adhering to the authentic presentation of commodities, avoiding over-filtering, exaggerated promotion and false descriptions, and reducing returns caused by expectation deviation, constitutes the fundamental premise for maintaining consumer trust. Second, hosts should proactively and clearly explain the return policy, freight rules and after-sales timeliness, and avoid evading after-sales related problems, so that elderly consumers can fully understand their rights and interests, and truly realize secure consumption and worry-free returns. Third, to avoid inducing impulsive consumption, especially for high-frequency return categories such as clothing and food, hosts should remind elderly consumers to place orders rationally while maintaining authentic description of commodities. Meanwhile, live broadcast rooms should prioritize natural light and filter-free shooting, which can reduce the impact of color difference on commodity presentation, and cut off unnecessary return disputes at the source.

VI. CONCLUSION

This study explores the impact of various factors on the return intention of elderly consumers under the live shopping mode through empirical analysis. The results show that product perceived consistency has a significant negative impact on return intention, that is, the higher the fit between the product and the expectation, the lower the return intention. It is worth noting that the reputation of hosts has a significant positive driving effect on return intention, which shows that in the elderly group, the trust brought by high-reputation hosts does not reduce the return of goods, but gives them the bottom line to exercise the right to return goods. In addition, the study further confirms the moderating effect of the return policy: in the context of convenient return process, the positive impact of leisure shopping orientation on return intention is significantly enhanced; while in the context of complex process, the decision-making of the elderly is more dominated by situational factors such as products and hosts, and the impact of individual shopping motivation is no longer significant. This study provides a clear optimization path for live e-commerce platforms and hosts: in terms of basic functions, the platform should be deeply transformed

to adapt to aging, such as developing "one-click return", setting voice guidance and large font interface, and reducing the operation threshold and digital anxiety of the elderly. Hosts should adhere to true display, strictly control filters, actively and clearly explain the return rules, and take perfect after-sales support as the core of brand trust building, so as to reduce disputes caused by expected deviations from the source. Under the deep integration of aging society and digital transformation, it is of great social value to explore the return behavior of the elderly in live e-commerce for bridging the digital divide. Future research can pay attention to the special demands of the elderly over 70 years old in complex digital scenarios, so as to provide more comprehensive theoretical support for the construction of a comprehensive inclusive age-friendly consumption system.

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